

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-33. (Canceled)

34. (Currently Amended) A method for inducing adaptive immunity in a bird against a selected immunogen comprising:

injecting a biocompatible implant into an egg, wherein the biocompatible implant comprises the selected immunogen and a biocompatible matrix material, wherein the egg comprises maternal antibody to the selected immunogen, wherein the implant provides for sustained release of the immunogen until the maternal antibodies in a bird hatching from the egg are reduced so that the bird is capable of mounting an adaptive immune response to the immunogen, wherein the immunogen comprises a siderophore receptor protein from a gram-negative bacterium.

35. (Original) The method according to claim 34, wherein the implant is injected during the fourth quarter of incubation of an egg.

36. (Original) The method according to claim 34, wherein the implant is injected at about 15-28 days of incubation of an egg.

37. (Original) The method according to claim 34, wherein the bird is selected from the group consisting of turkey, chicken, duck, goose, ostrich and pheasant.

38. (Original) The method according to claim 34, wherein the bird is a turkey and the implant is injected at about 25-27 days of incubation of an egg.

39. (Original) The method according to claim 34, wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching.
40. (Original) The method according to claim 34, wherein the implant provides for sustained release of the immunogen for about 1-60 days post-hatching.
41. (Original) The method according to claim 34, wherein the implant provides for sustained release of the immunogen for about 1-35 days post-hatching.
42. (Original) The method according to claim 34, wherein the implant is injected at about 25-27 days of incubation of an egg and wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching of the egg.
43. (Original) The method according to claim 34, further comprising administering a second dose of the immunogen at 3-12 weeks post hatching to stimulate a secondary immune response.
44. (Original) The method according to claim 34, wherein the bird is a chicken and the implant is injected at about day 17 to 19 of incubation of an egg.
- 45-66. (Canceled)
67. (Previously presented) The method according to claim 34, wherein the implant further provides for delayed release.
68. (Previously presented) The method according to claim 34, wherein the immunogen further comprises a porin protein.

69. (Currently Amended) A method for inducing adaptive immunity in a bird against a selected immunogen comprising:

injecting a biocompatible implant *in ovo*, wherein the biocompatible implant comprises the selected immunogen and a biocompatible matrix material, and hatching eggs to result in birds, wherein the eggs comprise maternal antibody to the immunogen, wherein the implant provides for sustained release of the immunogen until a time when maternal antibodies of the birds to the immunogen are sufficiently reduced so that the birds are capable of mounting an adaptive immune response to the immunogen, wherein the immunogen comprises a siderophore receptor protein from a bacterium.

70. (Canceled)

71. (Previously presented) The method according to claim 69, wherein the implant further provides for delayed release.

72. (Previously presented) The method according to claim 69, wherein the immunogen further comprises a porin protein.

73. (Previously presented) The method according to claim 69, wherein the implant is injected during the fourth quarter of incubation of an egg.

74. (Previously presented) The method according to claim 69, wherein the implant is injected at about 15-28 days of incubation of an egg.

75. (Previously presented) The method according to claim 69, wherein the bird is selected from the group consisting of turkey, chicken, duck, goose, ostrich and pheasant.

76. (Previously presented) The method according to claim 69, wherein the bird is a turkey and the implant is injected at about 25-27 days of incubation of an egg.
77. (Previously presented) The method according to claim 69, wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching.
78. (Previously presented) The method according to claim 69, wherein the implant provides for sustained release of the immunogen for about 1-60 days post-hatching.
79. (Previously presented) The method according to claim 69, wherein the implant provides for sustained release of the immunogen for about 1-35 days post-hatching.
80. (Previously presented) The method according to claim 69, wherein the implant is injected at about 25-27 days of incubation of an egg and wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching of the egg.
81. (Previously presented) The method according to claim 69, further comprising administering a second dose of the immunogen at 3-12 weeks post hatching to stimulate a secondary immune response.
82. (Previously presented) The method according to claim 69, wherein the bird is a chicken and the implant is injected at about day 17 to 19 of incubation of an egg.
83. (Canceled)
84. (Currently Amended) A method for inducing adaptive immunity in a population of birds against a selected immunogen comprising:

injecting a biocompatible implant into a population of eggs that comprise maternal antibody to the selected immunogen, wherein the biocompatible implant comprises the selected immunogen and a biocompatible matrix material, wherein the implant provides for sustained release of the immunogen until the maternal antibodies to the immunogen in birds hatching from the eggs are reduced, and the birds hatched from the eggs are capable of mounting an adaptive immune response to the immunogen, wherein the immunogen comprises a siderophore receptor protein from a bacterium.

85. (Previously presented) The method according to claim 84, wherein the implant further provides for delayed release.

86. (Previously presented) The method according to claim 84, wherein the immunogen further comprises a porin protein.

87. (Previously presented) The method according to claim 84, wherein the implant is injected during the fourth quarter of incubation of an egg.

88. (Previously presented) The method according to claim 84, wherein the implant is injected at about 15-28 days of incubation of an egg.

89. (Previously presented) The method according to claim 84, wherein the bird is selected from the group consisting of turkey, chicken, duck, goose, ostrich and pheasant.

90. (Previously presented) The method according to claim 84, wherein the bird is a turkey and the implant is injected at about 25-27 days of incubation of an egg.

91. (Previously presented) The method according to claim 84, wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching.

92. (Previously presented) The method according to claim 84, wherein the implant provides for sustained release of the immunogen for about 1-60 days post-hatching.

93. (Previously presented) The method according to claim 84, wherein the implant provides for sustained release of the immunogen for about 1-35 days post-hatching.

94. (Previously presented) The method according to claim 84, wherein the implant is injected at about 25-27 days of incubation of an egg and wherein the implant provides for sustained release of the immunogen for about 1-90 days post-hatching of the egg.

95. (Previously presented) The method according to claim 84, further comprising administering a second dose of the immunogen at 3-12 weeks post hatching to stimulate a secondary immune response.

96. (Previously presented) The method according to claim 84, wherein the bird is a chicken and the implant is injected at about day 17 to 19 of incubation of an egg.

97. (Previously presented) The method according to claim 34 wherein the implant further comprises an adjuvant.

98. (Previously presented) The method according to claim 69 wherein the implant further comprises an adjuvant.

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For: IN OVO DELIVERY OF AN IMMUNOGEN CONTAINING IMPLANT

99. (Previously presented) The method according to claim 84 wherein the implant further comprises an adjuvant.

100. (Previously presented) The method according to claim 43 wherein the administering a second dose of the immunogen comprises administering a modified live vaccine.

101. (Previously presented) The method according to claim 81 wherein the administering a second dose of the immunogen comprises administering a modified live vaccine.

102. (Previously presented) The method according to claim 95 wherein the administering a second dose of the immunogen comprises administering a modified live vaccine.